

# Claims

[c1] I claim as my invention:

1. A golf ball comprising:

a core; and

a cover formed over the core, the cover composed of a thermosetting polyurethane material formed from reactants comprising a polyurethane prepolymer and 4,4'-methylenebis-(3-chloro,2,6-diethyl)-aniline, wherein the cover has an aerodynamic surface geometry thereon.

[c2] 2. The golf ball according to claim 1 further comprising at least one boundary layer disposed between the core and the cover.

[c3] 3. The golf ball according to claim 1 wherein the toluene diisocyanate prepolymer is a polypropylene glycol terminated toluene diisocyanate prepolymer with a NCO content ranging from 3.0% to 6.0%.

[c4] 4. The golf ball according to claim 2 wherein the boundary layer is composed of a blend of ionomers.

[c5] 5. The golf ball according to claim 1 wherein the polyurethane prepolymer is a polytetramethylene ether

glycol terminated hexamethylene diisocyanate prepolymer.

- [c6] 6. A golf ball comprising:  
a core comprising a polybutadiene mixture;  
a boundary layer formed over the core, the boundary layer comprising at least one ionomer material; and  
a cover formed over the boundary layer, the cover composed of a thermosetting polyurethane material formed from reactants comprising a polytetramethylene ether glycol terminated hexamethylene diisocyanate prepolymer and  
4,4'-methylenebis-(3-chloro,2,6-diethyl)-aniline,  
wherein the cover has an aerodynamic surface geometry thereon.
- [c7] 7. The golf ball according to claim 6 wherein the thermosetting polyurethane material of the cover has a Shore D hardness ranging from 30 to 60 as measured according to ASTM-D2240.
- [c8] 8. The golf ball according to claim 6 wherein the cover has a thickness ranging from 0.015 inch to 0.040 inch.
- [c9] 9. A golf ball comprising:  
a core; and  
a cover formed over the core, the cover composed of a

thermosetting polyurethane material formed from reactants comprising a polytetramethylene ether glycol terminated hexamethylene diisocyanate prepolymer and a curative composed of 4,4'-methylenebis-(3-chloro,2,6-diethyl)-aniline and diethyl 2,4-toluenediamine, wherein the cover has an aerodynamic surface geometry thereon.

- [c10] 10. A golf ball comprising:  
a core comprising a polybutadiene mixture;  
a boundary layer formed over the core, the boundary layer comprising a blend of ionomer materials; and  
a cover formed over the core, the cover composed of a thermosetting polyurethane material formed from reactants comprising a polytetramethylene ether glycol terminated hexamethylene diisocyanate prepolymer and a curative composed of 4,4'-methylenebis-(3-chloro,2,6-diethyl)-aniline and diethyl 2,4-toluenediamine, wherein the cover has an aerodynamic surface geometry thereon.
- [c11] 11. The golf ball according to claim 10 wherein the golf ball has a PGA compression ranging from 70 points to 100 points.
- [c12] 12. The golf ball according to claim 10 wherein the core has a PGA compression in the range of 55 points to 80

points.

- [c13] 13. The golf ball according to claim 10 wherein the blend of ionomer materials of the boundary layer is composed of a sodium neutralized ethylene/methacrylic acid, a zinc neutralized ethylene/methacrylic acid and a magnesium neutralized terpolymer of ethylene, methacrylic acid and n-butyl acrylate.
- [c14] 14. The golf ball according to claim 10 wherein the thermosetting polyurethane material of the cover has a Shore D hardness ranging from 30 to 60 as measured according to ASTM-D2240.
- [c15] 15. The golf ball according to claim 10 wherein the cover has a thickness ranging from 0.015 inch to 0.040 inch.